UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---|---|---|---|
| 09/084,787 | 05/21/98 | HARASAWA S | FUJH13.010A |

PM82/1207

HELFGOTT AND KARAS
EMPIRE STATE BUILDING
60TH FLOOR
NEW YORK NY 10118

| EXAMINER | |
|---|---|
| MOSKOWITZ,N | |
| **ART UNIT** | **PAPER NUMBER** |
| 3662 | 10 |

**DATE MAILED:** 12/07/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

| Office Action Summary | Application No. 09/084787 | Applicant(s) HAASCH |
|---|---|---|
| | Examiner A MOSKOWITZ | Group Art Unit 3662 |

*—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE -3- MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

☒ Responsive to communication(s) filed on 11/16/99.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

**Disposition of Claims**

☒ Claim(s) 15-17 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 15-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

**Attachment(s)**

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

**Office Action Summary**

1. Applicants' letter received November 16, 1999 has been made of record.

2. Applicants' instructions to cancel claims 1-5 and 8-10 are unnecessary as claims 1-14 were canceled by Applicants' amendment received May 2,, 1998.

3. Applicants' request for withdrawal of the finality of the last Office action is granted in order to give Applicants the opportunity to address the Heidemann reference.

4. Claims 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants disclosure of the prior art (Fig. 15) and pages 3-4 of the instant specification when taken with Heidemann ('109).

In determining obviousness, the following factual determinations are made:

a. first, the scope and content of the prior art.

b. second, the difference between the prior art and the pending claims.

c. third, the level of skill of a person of ordinary skill in this art;

d. fourth, whether other objective evidence may be present, which indicates obviousness of nonobviousness. Graham v. John Deere Co., 282 US 1, 17-18, USPQ 456, 466-67 (1966). Objective evidence includes long felt but unmet need for the claimed invention, failure of others to solve the problem addressed by the claimed invention, and not other factors. See e.g. Simmons Fastener Corp. v. Illinois Tool Works, Inc. 739 Fed. 1573, 1574-76, 22 USPQ 744, 745-47 (Fed. Cir. 1984).

Examining the scope and content of the prior art one finds the following:

a. Applicants discussion of the prior art presents an optical amplifier with an input terminal, an optical coupler, a detector, and an optical fiber amplifier. Fig. 15 of Applicants' disclosure is identified as prior art and contains similar components. In addition Applicants admit that the detector was used to monitor the input signal, and noise problems appeared signal the level was low. The additional problem of noise, from pump radiation counter-propagating to the signal radiation and then impinging on the detector is noted.

Constantly, the prior art was well aware of the problem of pump radiation reducing the necessary signal/noise ratio.

b. Heideman is directed to fiber optic amplifiers and teaches the use of optical filters positioned downstream and upstream an optical amplifier to block pump radiation having prior to and also passed through the amplifier. This pump radiation filtering provides less noise and clearer and cleaner signal radiation date to the detector.

Secondly under Deere, the difference between this prior art and the pending claims lies in the combination of an optical filter to the post coupler input of Hayata or Applicants' disclosed prior art.

Third, under Deere the level of ordinary skill in this art may be determined by the analysis of the Court as set forth in Environment Designs Ltd. v. Union Oil Co. 713 F.3d 693, 281 USPQ 865-69 (Fed. Cir. 19830 cert. denied, 464 1043 (1984), where the court listed factors relevant to a determination of the level of ordinary skill; type of problems encountered in the art,

prior art solutions, rapidity of innovations, sophistication of technology, and educational level of active worker in the field.

The types of problems encountered in the art involve highly complex optics and quantum electronics, and how to provide inexpensive, accurate and reliable, noise reduction.

Innovation in this field has been very fast as can be seen from virtual birth of this field in the 1970s to its present highly complex and sophisticated status.

Prior art solutions include nose filtering. Skilled artisan generally have graduate level education and over seven (7) years of experience, as can be seen from published articles in the major journals of this field, e.g. IEEE Journal of Quantum Electronic, Optical Communications. Optics, etc.

To date, no secondary considerations (objective evidence) has been presented. Therefore, as this prior art taught both the need and the benefits of such pump radiation filtering, the combination would have been obvious to one skilled in the art.

A further indication of the obvious matter nature of the foresaid combination is the expectancy of the beneficial results from using the optical filter. This follows just as unexpected beneficial results would be evidence of unobviousness Ex parte Novak, 16 USPQ 2d 2041 (Bd. Pat. App. Int. 1990).

As the aforesaid prior art is known by optical physicists to provide the respective benefits and improvement as set forth above, the physicist would have been led to make the obvious

combination of these teachings in order to obtain the benefits this prior art taught and the artisan would typically readily recognize.

Although there is no explicit teaching to combine the aforesaid references, it is noted that an artisan would generally look to optimize equipment life while maximizing the S/N. Such optimization ordinarily leads to more durable equipment, better signal quality and simplicity of use, lowered costs, and less time used.

In response to Applicants' argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such as reconstruction is proper. See In re McLaughlin. See *In re Fine,* 837 F.2d 1071 5, USPQ 2d 1596 (Fed. Cir. 1988) and *In re Jones,* 958 F. 2d 347, 21 USPQ 2D 1941 (Fed. Cir. 1992). In this case, the reason to combine is the prior art known need for precise signal data and the known problem of pump radiation noise.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co. 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Mowkowitz-Carmen

November 29, 1999

December 2, 1999

NELSON MOSKOWITZ
PRIMARY EXAMINER